

Title (en)

Surface heat treatment of piston rings

Title (de)

Oberflächenwärmebehandlung von Kolbenringen

Title (fr)

Traitement thermique de surface de segments de pistons

Publication

EP 1024205 A2 20000802 (EN)

Application

EP 00300685 A 20000128

Priority

US 24010699 A 19990129

Abstract (en)

A piston ring 32 for use in a piston of an internal combustion engine comprises a base material 38 of a first hardness formed into a ring, and a secondary material of a second hardness formed by selective and superficial heat treatment of an outer portion of the base material. At least one outer surface 46 of the ring is selectively and superficially heat treated in one of a variety of ways to form an austenitic metal layer about 100 μ m thick on the surface of the ring. The ring is then rapidly cooled in an appropriate environment, resulting in the transformation of the austenitic compound into a martensitic compound 48 adjacent the base material at the point of heat treatment. Preferably, the martensitic metal has a hardness range of 800 to 1000 HV (Vickers Hardness scale) measured at a load of 100 grams. <IMAGE>

IPC 1-7

C21D 9/40; F16J 9/00

IPC 8 full level

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CPC (source: EP US)

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